The
Public Health Journal

OFFICIAL ORGAN
Canadian Public Health Association

Vol. XIV TORONTO, MARCH, 1923 No. 3

SPECIAL ARTICLES

$2.00 per annum 207 YORK BLDG., TORONTO 20 cents per copy

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Community Responsibility With Regard to Tuberculosis

Read before the Union of Nova Scotia Municipalities at their 17th Annual Convention, Kentville, N.S., August 31st, 1922. By Dr. A. F. Miller, Medical Superintendent of the Nova Scotia Sanatorium, Kentville.

I HAVE no doubt the majority of you are familiar with the tuberculosis situation in Nova Scotia, but, although our mortality findings have been brought before you on many occasions in the past, I will crave your indulgence this morning if I bring them before you again, so that you may see from these graphic charts the death rate from tuberculous disease in this province.

The first diagram indicates this varying death rate in Nova Scotia for the past ten years, that is, those who have died from all forms of tuberculosis.

In 1912, 900 people died. That is a rate of 183 for every hundred thousand of the population. In 1913, 885 people died, or 176 per hundred thousand of the living. And so on down through the other years until 1921, when 725 people died, or 138 per hundred thousand of the living. The total number of deaths from tuberculosis in our little province during those ten years was 8,564, What does this mean to us?

Aside from the grief and suffering and the other losses entailed in sickness and death, the actual money loss to the province from the wiping out of these lives is great, and will surely interest you. As you may know, death from tuberculosis occurs most often in the working period of life, its highest percentage being between the ages of twenty and thirty, when one-third of all deaths are from this cause. The average age at death of those who die of tuberculosis, is for males 37 years, for females 33 years. Each of these deaths cuts life short on the average 29 years for males and 24 years for females. The money loss from each death is computed somewhat as follows:

First, a period of partial disability, one and a half years, during which the patient is supposed to earn half his former earnings.

TUBERCULOSIS IN NOVA SCOTIA DEATH RATE PER 100,000 OF POPULATION.

Year. Rate.	No. of Deaths.
1912—183	900
1913—176	885
1914—183	910
1915—182	915
1916—181	876
1917—169	862
1918—165	860
1919—169	867
1920—148	765
1921—138	725

WHAT SHALL WE DO ABOUT IT?

TUBERCULOSIS DEATH RATE PER 100,000 OF POPULATION PROVINCES OF CANADA, 1921.

P. E. Island	143
Nova Scotia	138
Quebec	123
New Brunswick	104
British Columbia	76
Ontario	71
Manitoba	69
Alberta	52
Saskatchewan	43

Second, a period of total disability preceding death, during which time the patient earns nothing toward his own support. And third, we must add the cost of medical attendance, nursing, medicines, etc. The total of these three items exceeds $2,400 in each instance. In addition, we must consider what we call the capitalized value of the earnings lost in the case of each death, that is, what the patient would have earned had he not developed tuberculosis. He would probably have lived 24 years longer, and his earnings during this productive period are estimated at $7,900 for each person.. We could therefore estimate a total money loss to the state of $10,000 in the case of each death. Statisticians tell us that the *very least* at which we can reckon the average cost in actual money of one death from tuberculosis is $8,000. Last year 725 people died in Nova Scotia from this disease. The total money loss to the province, therefore, was at least $5,800,000 for the year 1921 alone. And at this lowest estimate our 8,564 deaths in the past 10 years have meant a loss of $65,000,000.

Let us now compare the death rate from tuberculosis in Nova Scotia with that in the other Provinces of Canada. I have taken the figures from the last Federal census, 1921. This second diagram graphically shows you that in Prince Edward Island 143, in Nova Scotia 138, in Quebec 123 people for every hundred thousand of the living, died from tuberculosis last year. In New Brunswick 104, in British Columbia 76, in Ontario 71, in Manitoba 69, in Alberta 52, in Saskatchewan 43. So you see, that Nova Scotia stands as a close second to the worst in the list. People as well known for intelligence as Nova Scotians should surely be looking carefully into the reasons for this. There *must be* reasons, and nothing can be more worthy of study, investigation and sharp questioning than this matter of our people's health. We recognize that there has been a perceptible fall in the mortality rate in Nova Scotia in the past few years, but it is still exceedingly high, and why this should be it is difficult to say. Nova Scotia, as you well know, is surpassed by none of the provinces of Canada in its natural and varied beauty, its wealth of minerals, fisheries and lumber, its industrial activities, its fertile farm lands, and in its homes where prosperous families live in comparative comfort. No great poverty is to be found in this province, no overcrowding as in the slums of great cities. It has no extremes of climate, and is a land, as has well been said, without tempest, drought, or pestilence.

As to the racial factor, the population of Nova Scotia is not made up of any of those races which are known to be susceptible to

tuberculous disease. For example, in the coloured race the death rate from tuberculosis is twice as great as it is among the whites; but negroes make up only a very small proportion of the population of this province. The Irish is another race which appears to suffer heavily from the ravages of tuberculosis, but they, too, are not in any great numbers throughout Nova Scotia. The English, Scotch and French stock, of which our population is chiefly made up, enjoy a well-marked degree of immunity to tuberculosis, and their mortality rate from this disease is much less than that of the other races, with the exception of the Jewish. We cannot, therefore, attribute our high mortality rate in Nova Scotia to any racial element.

As to the general condition and habits of our people, such factors as poverty, mal-nutrition, alcoholism, improper methods of living and working, are not more common in our province than in other parts of Canada. Why should the death rate, say, in Ontario, be 71, while ours is 138 per hundred thousand, when conditions in these two provinces are so nearly alike? Have you men and women ever tried to think this question out for yourselves? As for me, I have been thinking about it for years, and I can only conjecture. The only explanation I can find is that in Nova Scotia we have not kept pace in thought and in action with those communities that have made a determined effort to wipe out this terrible and unnecessary scourge.

Here I see gathered in this audience a group of some of the most representative men of our Province, who have come here not only to see this beautiful Valley, but to gather in conference upon matters pertaining to the public good, the business of community life. You cannot fail to see the bigness, the immediate importance of this matter in which you have already shown an interest by asking me to come here and talk to you. It is not necessary for me to remark that the greatest asset a country can have is a healthy and industrious people. Any community that neglects to provide adequate and efficient health legislation to safeguard the health and prolong the life of its citizens, is only storing up expense and trouble for itself in the future. It is not practising good economy. It is not saving money. It is wasting.

Let me tell you, as an example of what can be done, and at moderate expense, what has been accomplished in Framingham, Massachusetts. Five years ago the Metropolitan Life Insurance Company offered the National Tuberculosis Association of the United States a gift of $100,000 to be expended in a Health Survey and demonstration covering a period of three years, in some average American

community. At the end of three years, I may explain, the demonstration was continued, so that at present we have their report for five years.

Framingham, an industrial town of 16,000 population, was selected. The object was to bring under observation all of the tuberculosis in the community, to apply the best known methods of treatment, to develop a thoroughgoing and comprehensive programme of prevention, to organize effectually the various resources of the community itself for tuberculosis control and the promotion of health. Only a few of its activities can be mentioned here. These include:

A sanitary survey of school and factory conditions, milk and food control and general sanitation; gathering of morbidity and mortality statistics; a census of all individuals regarding matters of hygiene, housing, economic status, etc.; a survey of tuberculosis infection among cattle supplying milk to Framingham; an expert medical examination campaign in which over three-quarters of the population of the town was examined; a thorough organization of treatment and after-care for the sick, and of preventive aid for those below par physically.

It is interesting to note that one per cent. of the population was found to have active tuberculosis, and one per cent. more to have the disease latent or arrested, and that there was a prevalence of illness and disability of all types, of 77%. It was also discovered that, instead of the ratio of three cases of disease among the living for every known death, which was formerly accepted as existing, there were actually nine or ten of the living diseased to every recorded death from tuberculosis.

The report of the results of this remarkably successful health demonstration prove that tuberculosis as a cause of illness is apparently being brought under control in that community. This is shown in the decreasing number of advanced cases discovered, and in the remarkable decline in the death rate, which, at the beginning of the demonstration was 121, and last year was 40, that is, of course, per hundred thousand. This is a reduction of 67 *per cent. in five years.* So much for Framingham.

And now, what about Nova Scotia? What means have *we* for the discovery of cases of tuberculosis, and for the care and supervision of these patients when discovered? It is true that our county clinics are doing admirable work, but they have not been long enough in operation for us to find out the extent of their possible usefulness. It must not be forgotten that in addition to the inspec-

tion and instruction of school children, which is a very good and necessary part of their work, the Public Health Nurses must find time to supervise with considerable thoroughness the home care of all tuberculosis cases not being treated in institutions. We all realize that not more than 10 to 20 per cent. of patients known to have tuberculosis will ever be treated in institutions. Since this is so, efforts must be made to create an efficient out-patient department of the clinic service, so that those who cannot or will not come to a sanatorium for treatment may be properly cared for in their own homes.

And what institutional provision have we in Nova Scotia for our tuberculous sick? Last year we had 725 deaths. This means that we must estimate about 4,000 patients in this province at present requiring care. Our total sanatorium and hospital accommodation for consumptives is about 350 beds. This is far from sufficient. There should be in Nova Scotia at least one bed for every known death, or 725 beds in all.

I have said that 725 persons died last year from tuberculosis, and that for every death we should find at least five, if not nine or ten, active cases of the disease among the living, which should be under observation and treatment. But does this condition actually exist in Nova Scotia, or is it possibly even worse than that? The findings in the town of Framingham and in other places where an intensive survey has been carried out lead me to believe that, with the high death rate we have in Nova Scotia, these figures would not be an over-rating, but we ought to *know for ourselves;* we ought to find out definitely the actual situation in this province. So far, no organized attempt, outside of what has been done in Antigonish and Guysboro has been made to secure this information of which we are sadly in need. Registration of known cases of tuberculosis, although this measure is called for by law in the province, is woefully neglected, and we cannot expect to get accurate information from this source. In the meantime, no adequate measures to deal with conditions can be taken until we know just where we stand in this matter.

While it may not be possible at present to carry out such a comprehensive programme as that conducted at Framingham for the whole of Nova Scotia, it *is* within our means and powers to carry on a somewhat similar demonstration in a *given limited area* within our province, say one county. This county should, for demonstration purposes, include several towns as well as typical rural districts of not more than average prosperity. It should

provide communities representative of industrial, mining, farming, inland and sea shore conditions. It will probably occur to you, as it has to us, who have studied the situation, that for this purpose we cannot find a better area than the county of Pictou, which offers a unique example of differing and representative conditions, with its cluster of towns, having the typical drawbacks of industrial centres, its larger and smaller country villages, its isolated rural districts. This county also presents most of the different geographical conditions to be found in Nova Scotia, sea shore, river basin, and inland. For this reason we think Pictou County would be a good selection for our experiment which, of course, is for the benefit of all Nova Scotia, an object lesson from which we shall learn what can be done and how to do it for the province as a whole.

The business mind of this audience will at once realize that to carry on such a survey successfully and with a maximum of benefit, we shall have to go about it in the most careful and thorough fashion. In the first place the movement will have to be popularized. No one can do people good against their will and wish. In the second place, for economy of time and labour and for efficiency in getting things done, we shall need the help of those who understand such work and have the mind and force to throw into it. This means, then, as our first step, *organization and advertising*. The organization must be in charge of the Provincial Department of Health who will be assisted by strong committees of individuals who are familiar with the industrial, social, and economic life of the county. As it is necessary to have the sympathetic co-operation and support of physicians, laymen, and local organizations, for the success of the demonstration, a publicity campaign will have to be carried on throughout the county. The acquainting of the people with the motives, methods and objects of the demonstration may be accomplished by addresses to public gatherings, instruction to school children, exhibition of Moving Picture Health films, distribution of pamphlets and posters, appropriate newspaper articles, etc. This work would be carried on by local committees selected from representative leaders in the county.

Our second step should be the *Health Survey* which should follow along three main lines, with two important branches: First, an inspection and weighing of all school children to discover those that are below standard weight, as we have learned that it is amongst these our cases of childhood tuberculosis or threatened tuberculosis will be found. These below-standard children will be

given further expert examination of the chest, nose and throat, to discover all cases of active tuberculosis and of latent or suspected tuberculosis, as well as those diseased conditions that are known to pre-dispose to this disease. I refer especially to bad nasal conditions, diseased tonsils and adenoids. This is where we hope to get at the real cause of the beginning of tuberculosis, as it is well known that tuberculous disease in the adult is a development of childhood infection. Second, examination of contacts, that is those who have been exposed to tuberculosis. For this purpose we should obtain the names and addresses of all families in the district in which there is a living case or has been a death of tuberculosis, and we must secure the consent of the heads of families to have all members of the household examined. This will bring to light many cases of unsuspected tuberculosis. Third, examination of Industrial Workers. This will mean securing the co-operation of employers and unions as well as the interest and consent of the workers, with the understanding that the results of the examinations will be kept strictly confidential between the workman and his physician. Hazardous employments, as you well know, predispose to respiratory diseases. Fourth, family and general examinations. It is to be hoped that almost all members of the community, especially those who feel themselves to be below par physically or who are suffering from any chronic respiratory troubles, will avail themselves of the opportunity to undergo expert examination. Fifth, Physicians' Consultation Service. This survey will provide the general practitioner with expert consultation service for any doubtful or suspected chest cases.

The third step should be *a Sanitary Survey.*

Under this head it is hoped that the Public Health Department will carry on a collateral investigation of, (a) City and rural sanitation. (b) Hygienic conditions in schools and factories. (c) Vital statistics of the county. (d) And an inspection of cattle and of the handling of dairy products.

This may sound to you as if calling for an alarming expenditure of money, but it is not really so. The intensive survey of a county such as I have described as an object lesson would not entail any tremendous outlay, and the necessary funds would, we hope, be raised by the Red Cross Society, the Canadian Tuberculosis Association, and other philanthropic organizations. Then, should the findings in this selected county be such—and they certainly will be such—that the other counties of the province desire a similar survey to be made, then why should not the Provincial Health Depart-

ment take charge of the whole work and put our province on a health footing which we shall be proud to compare with that of the other provinces of Canada?

Now I suppose, as practical men, you are thinking, "Having done all this examining and gathered all this data, what is going to come of it?" You are expecting me to get down to details, and tell you how to handle your local health problems. I may as well confess that I have no advice to offer unless you are prepared to spend time, money and energy. These, with the addition of information and education, are absolutely necessary to carry on any programme for the combating of disease. It would seem to go without saying that, when the first necessary step is taken, that is the discovery of cases of tuberculosis, the next duty is to have the patients properly cared for. There will be those who are hopelessly ill and who, for various reasons, should be removed from their homes, but might well be cared for in the hospitals near their homes. This would likely mean the building of an annex to the existing hospital in the county. Then there are those who should go to the Sanatorium for treatment and training. And there will be others who prefer to stay in their own homes, who must be supervised and when necessary, assisted in taking the cure there.

The best means yet devised to supplement the sanatorium and hospital and to bring medical service home to the people, is the County Clinic, with its facilities for expert examination, its trained Public Health Nurse who not only follows up the cases discovered and assists in their home treatment, but carries on the observation of school children and of contacts in the homes, thus assisting in the discovery of new cases of the disease. In other words the Clinic and the Public Health Nurse continue the work begun by the Survey. The Nurse's salary and expenses as well as the cost of necessary Relief Work for those who are in need of aid must be met by the Municipality.

The fact should not be lost sight of that in any and every case, the Provincial Treasury pays from one-half to two-thirds of the cost of keeping a patient at the Sanatorium, and that the comparatively small sum of $7.50 per week for pavilion patients and $10.00 for Infirmary patients, is the balance required to meet the total expense in each case.

As to provision for the needy tuberculous, this is one of the outstanding and immediate demands upon the community, that is, the municipality. At the Nova Scotia Sanatorium we have recently had several cases of urgent need of sanatorium treatment for

patients who could no longer pay for themselves or who could not come to us at all; some cases in which the patient, with open, infective disease, was forced to go home and sleep in a room with little children. You may think that, whenever there is real need and the municipality is applied to, there could be but one reply, as a matter of good business economy as well as for humanity's sake. But I can assure you that it is not always so. While there are some municipalities that will, there are others that will not accept this responsibility and pay for institutional treatment for those who need it, even on the urgent advice of the Sanatorium physician. It is a few cases of this kind that make us wish, at times, for legislation to compel municipalities to pay their one-third or one-half of the expense, or whatever proportion of this the patient is unable to pay.

Returning for a moment to our first chart, it is encouraging to note that in Nova Scotia there has been a distinct fall in the death rate for the past two years. There has been a total decrease of 19.4 per cent. in the yearly number of deaths in Nova Scotia in the past ten years, but in the first eight of these years, the decrease was only 3.6 per cent., while in the past two years it has been 16.4 per cent. (See figures at right of Chart No. 1). And we may surely venture to attribute this decrease, in some measure at least, to the education of the people through the Public Health Workers and to the fact that your institution at Kentville has not only been able to treat twelve times as many persons since 1917 as it could before, but that it has been for sixteen years sending out patients somewhat trained and instructed regarding tuberculosis. These ex-patients, "graduates" of the Sanatorium, now number 641 known to be living. (This is exclusive of our military ex-patients who number over a thousand.) This small army of interested persons, most of them examples of recovery from tuberculosis, must have a wide-spread influence, both by noticing early symptoms in others and by educating their neighbours in healthful habits of living.

To sum up briefly what we must consider as community responsibility with regard to tuberculosis, I would say:

1st. Make municipal provision for your needy tuberculosis at the Sanatorium, if possible, or if not, under adequate and proper supervision of your County Health Nurse, or in a local hospital.

2nd. Push your Provincial Government to the appointment of a full-time expert tuberculosis examiner for the County Clinics.

3rd. Back up in every way the work of your County Clinics and of the nurses; attending faithfully to sanitary conditions in

homes, schools and work-places, and to the care of undernourished children and the correction of such defects as tend to lead to respiratory disease.

4th. Have an intensive Health Survey in your municipality as soon as possible, to discover your cases of tuberculosis needing treatment and to find out exactly what health conditions are in your community.

If this appears to be a big programme, I can only say that I noticed, when I looked over your agenda for this convention, that it also is a big programme. I mean it is wide in its outlook and ambitious in its scope. Your ideas are those of men and women who want to have everything the very best that it can be made. But what is the beautifying of municipalities or the improvement of highways if you are too sick to enjoy it? In short, health is at the root of any enjoyment and success in life. The tuberculosis problem is only of interest to you as a tale that is told, unless, indeed, it has struck at your own family. It is people like myself, who are continually brought face to face with individual tragedy, who feel the urgent need of immediate action on the part of the public.

I am sure that, if all the influence represented by the Municipal Officers of Nova Scotia were exerted persistently and in a business-like way along these lines, this province would reap splendid results in the health of its people, the great fundamental of happiness and prosperity.

Some Clinical Aspects of Industrial Poisoning

By N. C. Sharpe, B.A., M.B., *From the Department of Pharmacology, University of Toronto, and Division of Industrial Hygiene, Ontario Board of Health.*

Read before the Section of Preventive Medicine, Academy of Medicine, Toronto, January 30th, 1923.

During the year 1921-2 the Division of Industrial Hygiene of the Provincial Board of Health investigated the dangers to health of workmen arising from substances of a chemical character with which they come into contact during their industrial employment. From this survey, certain observations have been made which may be of interest to those physicians who include industrial cases in their practice. Only a few of the numerous chemicals can be considered in the length of time allowed, and those will be chosen which are used in the Toronto district. Where possible early points in diagnosis will be pointed out.

The pathological effects of lead in numerous trades have been harped upon so often and so much as to have lost general interest, yet in industrial centres it continues to exist as a serious menace to the health of many.

The industry in which lead poisoning may exist as a pure or unmixed risk is in the manufacture of storage batteries. We have in Toronto three main plants engaged in this work. The risks vary, for in two plants no lead mixing is done, but in all polishing and assembling of lead plates take place. A few workmen may be exposed also to acid fumes and to arseniuretted hydrogen in the charging room, but the general risk is from lead. Fifty-five men were examined and air samples were taken to find the amount of lead present in the air breathed. Legge and Goadby[1] have shown that where the air of workrooms does not contain more than 5 mgms. of lead per 10 cubic meters, cases of paralysis would never, and cases of colic would seldom occur. Only near the saws and the buffing or polishing machines was lead in dangerous amounts found. Yet in assembling plates three cases of lead absorption were found and two gave a past history suspicious of lead poisoning. One man after 1½ months assembling was losing weight, had constipation and headache, frequently felt "punk and drowsy" to

use his own words, and had marked tremor of the hands. One after eight months had constipation and a blue line in the gums. Another after 15 months, had a well marked blue line in the gums but no other signs nor symptoms. This man was a case of lead absorption, but the balance between intake and output of lead had not been sufficiently disturbed to give him symptoms. Intercurrent disease, such as an attack of influenza, might easily upset the balance. One workman engaged in sawing plates, after four months was laid up with constipation and colic and had a blue line in the gums. He is now in the moulding room, feels perfectly well but still has the blue line. In the one factory where lead pasting is done, two mixers have a blue line on the teeth but none on the gums. Great care is taken to protect these men by keeping down dust, by bathing and changing before leaving work, immediate care of cuts, injuries and ill health and no trouble has occurred. But a negro, whose work included cleaning up this pasting room, worked in a dusty atmosphere and had an attack of colic. Since examining these men last June, one man then employed has developed the symptoms of acute lead poisoning.

House painters and decorators are exposed to other chemicals than lead and those can do them just as much harm. I refer to turpentine, benzine, benzole, denatured alcohol and amyl preparations. It is now possible for a painter engaged on interior work to use no lead for years. And he now rarely if ever prepares his paints from the dry pigment stage, but starts from a paste of pigment and oil. This diminishes his risk from poisonous dust. But painters are critical and often contemptuous of the ready mixed and leadless turpentine-free paints used nowadays and a frequent statement is that the cheap grades of benzine-thinned paints are worse than any others in their effects. Of 132 painters examined, no case of acute or chronic plumbism was found. Thirteen cases gave a past history suspicious of lead poisoning, based on paralysis, or on colic with constipation and vomiting and headache. It is interesting to note that all but three of these cases had occurred 15 or more years ago and none since 5 years ago. Ready mixed and leadless paints became fairly common on the market 10-12 years ago.

There were 10 painters with complaints and physical findings enough to show that they were affected by the substances with which they worked. Diagnosis of lead poisoning was not made in any case. A few short case histories follow:

1. Age 33. Time spent at the trade 17 years. Housepainting and decorating. No dry lead used. During past summer on outside painting using considerable amount of lead. Has a poor appetite which improves when not painting, morning anorexia, bad taste in mouth, occasional colicy pains in abdomen, purgatives needed at intervals, subject to colds frequently, has morning expectoration of yellow phelgm less during day, has headaches while using flat paint, has had pain in urinating, has frequency of urination after using turpentine, has had pain in right shoulder for a year, is nervous especially now on scaffold work, and has had a poor memory and weak eyes since serving overseas; where turpentine is strong, he has occasional heavy feeling, grogginess, drowsiness, slight dizziness, and choking sensations, he becomes quite dizzy on going to fresh air even if no previous symptoms. Physical examination is negative. No basophile granules in red blood cells; urine is free from albumen and casts and no lead found.

2. Age 47. Time spent at the trade 20 years. Housepainting and decorating. Used dry lead in England for two years. Has done no lead work lately. Notices no difference in outside and inside painting in its effects upon him. He has a metallic bad taste in mouth, coated tongue, varying appetite, poor in morning, indigestion, bad breath, pyrrhoea and constipation. He has bronchitis nearly all the time. He is slightly distressed after climbing stairs, heart shows an extra beat at irregular intervals; he has to get up once per night for past three years; occasional pain when urinating, dark and bulging lids occasionally, specks before eyes after stooping, pain in the back after stooping, poorer memory, weakness in the right arm for past six to eight weeks; he has acne on face. BP 135-85. Hgl. normal; urine clear of albumen and casts; no erythrocytic basophilia. Enamelling in small rooms makes his eyes smart, gives him slight headache, and sometimes dizziness on reaching fresh air.

3. Age 47. Time spent at the trade 26 years. Housepainting —15 years in Canada—has mixed dry colors, has used a lot of lead.

Twenty years ago he had a spell of vomiting, constipation and abdominal pain for three weeks. He has a metallic taste in mouth, bad breath, pyrrhoea, few teeth. He has slight swelling of ankles at night, and breathlessness on climbing, has to get up once per night for sometime past; is nervous and shaky and unable to do scaffold work; is troubled with headaches and has tremor when working; BP 135-70. Hgl. 95%. Heart, lungs, urine and blood examination are negative.

4. Age 55. Time at trade 30 years. Housepainting. Complains of poor appetite, occasional pains after eating; diarrhoea at times; his eyelids are puffy and have been so at times before. His color is good. BP 150-95. Last year he was tired all the time with numbness and pains in back; he has pins and needles in his hands at night now; knuckles are swollen; cuts are slow to heal; he looks much older than his age. Flat paint smarts the eyes and makes him feel dizzy.

5. Age 52. Time at trade 30 years. Housepainting. He has poor appetite, is nauseated, vomits breakfast frequently; needs purgatives; has occasional dizziness and specks floating before eyes; doesn't dare to do scaffold work now. BP 145-85; Hgl. 100%; he has some stiff knuckles; has had pains in head for two or three years; has had inflamed eyelids at times; cuts on hands fester; he has had two attacks of dizziness and loss of memory on car going home after work. Flat paint makes him feel intoxicated in a very short time and causes smarting eyes, strong smelling urine with burning sensation and a dopey feeling next morning. Varnish has similar effects. Shellac makes him drunk. Benzine gives him "bumping" sensations in the region of his heart.

6. Age 53. Time at trade 39 years. House painter. Recently employed using a lot of white lead, turpentine and shellac, and had done some mixing but no sandpapering. For three weeks he did not feel well, with loss of appetite, some constipation and distension. Then followed an attack of constipation, distension (no abdominal rigidity), pain in lower part of abdomen, vomiting, pains in shoulder and elbow, severe headache, some delirium, general weakness and pallor. Albumen was present in the urine at first but soon cleared up. When examined two months later he was of fair color, mucous membranes of good color, fingers tremulous, arteries slightly hardened, BP 140-90. No albumen or lead found in the urine (patient was taking iodides too at the time urine was collected), no basophilic granules in the red blood cells, Hgl. 90%, red and white cell count normal. He had always taken precautions and had had no previous trouble except that shellacing made his eyes water and gave him a full head, and one time while flat painting in store windows he had to be carried out and was unfit for work for three days.

I said that the diagnosis of lead poisoning was not made in any case. Where the workman was exposed to several substances, each capable of producing signs and symptoms (and in many cases, the

same), there did not appear any reason for considering one substance as the cause.

These figures do not correspond to the figures quoted by United States investigators. Hayhurst[2] in 1913 found 70 of 100 painters showed evidence of chronic plumbism. In 1915 he found 50% of chronic plumbism and 26% of acute plumbism in the past. In 1918, Harris[3] found 40% of active cases of lead poisoning and 44% of these had lead in the urine as well as the clinical signs of plumbism. Are we dealing then with more careful workmen, not of foreign birth and with better home surroundings?

Something which will always cause varying statistics is the difference in opinon as to what constitutes lead poisoning. I have seen reports published where the diagnosis of lead poisoning has been made on the appearance of the lead worker alone. This would raise the rate of poisoning considerably. I have seen in the examination of house painters, men whose facial expression and pallor led me to expect lead poisoning but no corroborative evidence could be obtained. The pallor may have been due to inside work and not to the vasomotor effect of lead; the blood picture was normal.

Diagnosis also varies when made for prophylactic reasons and when made for clinical record or compensation. In guarding a workman from lead poisoning, and in protecting the employer from unnecessary compensation outlay, it is better to err on the safe side and remove the man from further exposure even on slight symptoms. Oliver[4] the English authority, says that if a lead worker shows an increasing distaste for food it is time to retire or suspend him from work for it is the earliest sign of resistance to lead being diminshed. Other symptoms which soon appear are a feeling of sickness, a tendency to vomit, obstinate constipation and a sense of tiredness out of all proportion to the amount of energy expended. These are unfortunately all subjective symptoms but, as compensation is not involved, a workman would gain nothing but a change of work (or none at all), by falsehood. It is dangerous to wait for the early objective signs such as the fixed anxious expression, pallor, wasting of subcutaneous fat and anaemia. The blue line on the gums may not develop if a man cleans his mouth and teeth; the basophilia in the erythrocytes are not always present and are not peculiar to lead poisoning alone; the presence of lead in the urine and faeces can only be shown after the tedious destruction of organic matter.

The diagnosis of lead poisoning for statistical or compensatory reasons must be more carefully made, for more is involved; for

example in the proposed prohibition of white lead in the painting industry, a careful estimation of the actual incidence of lead poisoning must be made or an injustice will be done to the industry. Linenthal[5] criticizes physicians for not making a diagnosis of lead poisoning on subjective symptoms alone. "A history of exposure to lead," he says, "Justifies the diagnosis of lead poisoning in patients presenting obscure symptoms which cannot otherwise be explained." The history of exposure is the all-important fact in his diagnosis of plumbism. Sternburg[6] bases chronic lead poisoning on a lead line; appearance and pallor. Laureck[7] diagnoses chronic lead poisoning when a previously healthy digestive system gives way to a chronic loss of appetite, more or less coated tongue, disagreeable sweetish taste, disagreeable breath, thirst, eructation of gas, inclination to vomit and general sense of fatigue, even if no lead line or lead anaemia are present.

But in all cases, one must be sure that lead is used, and it is folly to attribute all the ill health of lead workers to lead. Most lead workers in our industries are exposed to other risks as well. Great harm is done to the relations of employers and medical men if a diagnosis of a certain type of poisoning is made when a man is not exposed to that particular poison in his special line of work, even though it is commonly used in the trade. For example in the rubber trade a man may be exposed to one or more of at least nine poisons. Another point is to inquire into the conditions resulting in the poisoning to prevent new cases or recurrence of old cases. A woman, whose husband is a painter, developed lead poisoning recently; her poisoning was apparently not due to any carelessness on the part of the husband but to the fact that her house was recently painted and that she was exposed to a great deal of dust from sandpapering of paint.

Rubber workers use lead in compounding rubber, but cases of lead poisoning are rare in that trade now. Dust prevention, personal cleanliness and the small number of workers actually exposed keep the incidence low. But where care is not taken, poisoning occurs. One factory employing 1,200 persons, had 25 men handling lead salts. In one year they had four cases of lead poisoning in the compounding rooms and seven at the mixing mills; the factory had a very dusty compounding room and the mixing mills had no hoods nor exhaust.

Some men employed in spraying lead arsenate mixtures on trees for the Tussoc Moth had symptoms pointing to lead poisoning

in a mild degree. Only a few men in Toronto are exposed in this way.

The volatile bodies such as turpentine and benzine mentioned in connection with the painting trade are frequent sources of trouble. Of the 132 painters examined, 40 cases of acute intoxication from turpentine or benzine in flat paint were recorded (50% of all painters complaining of the effects of turpentine), also three cases of acute intoxication in shellacing, five from wood alcohol, five cases of benzine or "naphtha jags" and four from benzole or acetone in paint removers. In many cases, no attempt could be made to distinguish between the effects of the various volatile substances but a recent intoxication had usually several or all of the following symptoms: sudden weakness, irritation of eyes and throat, cough, difficulty in breathing, headache and dizziness, nausea and vomiting, and less commonly frequent and painful urination. Exposure to varying degrees of intoxication such as this must in time have a deleterious effect on the health and more so if to these is added a dangerous pigment containing lead. The painters examined, 132 in number, showed the following physical defects which may be taken as an index of the continued exposure: constipation 26, pyrrohoea 41, poor teeth 41, indigestion 7, inflamed throat 8, bronchitis 7, myocardial weakness 2, irregular heart 4, increased blood pressure (taking as an index the age + 100) 13, hardened arteries 9, haemoglobin by Tallquist scale showed very few over 95%, and 3 of 85% and less, pallor of face 19, only 1 case with albumen in the urine, headaches 21, tremor 10, myalgia and joint pains 24, loss of weight 2.

We were frequently referred by painters to furniture finishers for the effects of the volatile substances. 195 men were examined. The effects were far less than in painters. There were practically no cases of acute intoxication recorded, 70% had no complaints and showed no effects. Only 10% or 19 cases had enough associated symptoms and signs to be considered affected to any extent by the volatile bodies used, and of these 6 were mild cases. Some examples:

1. Age 28. Eight years at the finishing trade. Now applying stain by brush. Poor appetite, diminishing morning appetite. Indigestion. Constipation. Decreasing weight. Needs glasses since commencing finishing work. BP 142-85. Benzole has caused him to be dazed and to have momentary losses of memory.

2. Age 32. Ten years at the trade. Now applying varnish with brush. Occasional dizziness, nervousness, pains in legs, fre-

quent headaches often severe, occasional blurring of eyes, eyes tire easily when reading, varying degree of night polyuria.

3. Age 31. One year of the trade. Staining and filling by brush work now. Poor appetite, especially in the morning. Indigestion. Constipation. Unsound sleep. Bad taste in morning. Losing weight. Cracked skin on hands. Slight pyrrohoea. Night and day polyuria. Fumes make him drowsy, nauseated, half drunk at times, dopey the following moning, and bad taste in mouth.

4. Age 35. Ten years at the trade. Has spent five years on spray machine, using benzine, turpentine and denatured alcohol. Does some outside painting after hours. Poor appetite especially in morning, indigestion, constipation, occasional headache, morning expectoration of phlegm, occasional dizziness, puffiness of lower lids at times, pale but normal Hgl, has inflamed sore throat.

5. Age 30. Ten years at the trade, using shellac mainly—spray machine for six years. Had pleurisy five years ago. Nervous, constipated, some indigestion, inflamed conjunctivae, radial and temporal arteries hardened. BP 130-85.

Forty men who used the spraying machine were included in the 195; their complaints and physical defects were found to be milder than for finishers in general. The suction cabinets used are effective in withdrawing fumes if properly installed, and the old dipping vats are disappearing. Lead is seldom used in the finishng trade.

The physical effects noted in the 195 finishers are as follows:—Constipation 12, indigestion 12, pyrroheoa 11, bad teeth 10, inflamed throat 10, bronchitis 3, increased blood pressure 5, hardened arteries 8, only 2 cases with Hgl less than 90% by Tallquist scale, pallor of face 15, day polyuria 2, night polyuria 4, headaches 14, dizziness 10, myalgia and joint pains 8, loss of weight 6.

Industrial poisoning by turpentine has caused staggering, unconsciousness, conjunctivitis, skin irritation, nausea, vomiting, head ache, dizziness (frequently only on reaching fresh air) irritation of throat and of bronchial tubes and renal system, dry throat, cough, strangury and haematuria.

Benzine industrially may give acute symptoms and possibly chronic ones. The acute form usually has headache, nausea, stupid feeling, heaviness or sleepiness, roaring in the ears, inclination to cough, irritation and constriction of the throat, trembling of the hands and arms, excitement or irritability. An acute attack is succeeded by a stage of depression and dullness with clouded memory and on the following day headache, loathing for food and a feel-

ing of exhaustion. Workers in an atmosphere containing benzine complain of such symptoms as not feeling quite well, loss of strength, loss of colour and weight, headaches, stupid and listless feeling, distaste for food, poor sleep, constipation and pain in the stomach. Many workmen consider that benzine, especially the poorer grades, causes more trouble and more lasting effects than other volatile substances. Many workmen have no effects whatever from the fumes. Two rubber workers in a Toronto factory are working in a warm room with benzine cement; the room is provided with downward suction, but the fumes are strong. One man has worked daily for 7-8 years, and has noticed no effects; physically he is normal. The other man has worked 7 to 8 months and has had occasional attacks in which objects become blurred and the room sways, but he has no chronic effects. In garages, men have been overcome from benzine fumes of incompletely burnt gasoline. The running of motor engines in small unventilated rooms is a source of carbon monoxide poisoning also.

The use of benzole has been increasing lately. A common use is as a paint remover; it is frequently combined with acetone. Besides the caustic action on the skin, it is very poisonous when inhaled, especally in poorly ventilated rooms. However, I have seen men using it in rubber works and in painting small metal tanks without complaints or effects. There was one fatal case in Toronto last year during the painting of a tank. Another workman in the same tank collapsed and was removed in an unconscious condition, but was fully recovered in a week or two and showed no effects from the exposure. Recently cases were reported of chronic benzole poisoning from the use of a cement for cans. An interesting series were reported by Newton[8] in 1920, where an attack of headache, anorexia, lassitude, loss of weight and sudden pain in the abdomen with nausea and vomiting occurred in a chemist working for two weeks in an atmosphere of benzole. His red blood cell count was normal; white blood cells 1,200; Haemoglobin 85%. Two men without symptoms, who had been similarly exposed, had blood pictures of (1) red blood cells 4,000,000, white blood cells 1,250, Haemoglobin 95%. (2) Red blood cells 3,700,000, white blood cells 1,700, Haemoglobin 90%. The examination of the white blood cells would appear to be a good early diagnostic and prophylactic measure in benzole workers, without waiting for subjective symptoms or haemorrhages, inflammation of gums and lips, purpura or buccopharyngeal ulcerations.

(To be continued)

Child Health Programme in British Columbia

By Mrs. V. S. MacLachlan, *Secretary of the Women's Institute Branch, Department of Agriculture, B.C.*

FOR some time the need has been felt for a definite and uniform working policy for the voluntary organizations actively interested in Child Welfare. In so many instances the efforts of unselfish workers have been hampered by a lack of information on the exact condition of health in their own district and still further a lack of definite instruction on the method to pursue in order to improve the known conditions. They have passed vague resolutions to the effect that "The Government provide medical and dental treatment where needed."

They have been told over and over again from the platform that one-third of the men presenting themselves for service overseas were physically unfit, that eighty per cent. of this number owed their condition to defects which could have been remedied in childhood. They have been told that a striking relation exists between the proportion of defects shown by the army draft and the proportion of defects found in our school children. What we are trying to bring home to our earnest and conscientious workers is a personal application of these figures to their own local school district, and to assist them in providing medical and dental attention for these defective children.

The figures of the army draft were published broadcast, and quoted on the platform, but the figures of the medical inspection of our schools are only published in the annual report and very seldom used on the platform.

The object of our Child Health Programme is to direct attention to these figures and suggest a means of, and assist in providing a remedy. With this object in view and following the formation of the Dominion Child Welfare Council at Ottawa on October 19, 1920, the Provincial Department of Health decided to assist in the formation of corresponding councils throughout the Province of British Columbia.

Recognizing that the success of the Provincial Child Welfare movement in rural British Columbia would depend almost entirely upon the influence of the Women's Institutes, and in appreciation of the assistance already rendered by individual Institutes, the

Board of Health issued invitations on February 21, 1921, to the members of the Public Health and Child Welfare Committees appointed at the recent Conference to consult with the Provincial Board as to what particular phase of this work could be recommended to the Institutes and also just how a definite Provincial Policy could be carried out.

The idea receiving the unanimous approval of the Conference was to strengthen and co-ordinate the efforts of existing organizations rather than organize any additional bodies. Following this idea, where there is only one organization in the district, it would be recommended that the Health Work should be carried on as Committee Work; where there are several organizations, each should take some division, appoint a representative to a central body—the Hygiene Council—and at the regular meetings of the Council report progress and difficulty, thus preventing duplication and overlapping. The Hygiene Council really being the clearing station for the various organizations.

It was further decided by the Conference to make three divisions in the work:

(1) Prenatal Work.
(2) Pre-school Work.
(3) School Work.

PRENATAL.

The Institution or Councils should be asked to be distributing centres for Advisory Letters for Expectant Mothers, Diet Folders and Canadian Mother's Book. The Mother's Book and Advisory Letters, ten in number, are sent periodically during pregnancy and contain very valuable advice. The Diet Folders, five in number, outline the diet of the breast-fed and bottle-fed babies up to and including the diet of the school child. All this material to be supplied by the Board of Health.

Unfortunately it has since been found difficult to secure the names of the mothers early enough to have them derive the greatest benefit from the advice contained in the letters. Consequently the idea to have the application blanks printed in coupon form in the local papers has been suggested as one means of overcoming this difficulty.

PRE-SCHOOL.

With the exception of supplying mothers with the Diet Folders for these children there seemed little that the Conference could

recommend for the voluntary organizations to do. The pre-school child has been, and is the most difficult to reach, a very great deal of education is still needed to bring home the necessity of physical examination of these children and particularly the need of attention to the teeth. Where a nursing service is established, the organizations were urged to co-operate with the nurse in holding Well Baby Clinics including the pre-school child.

School Children.

In outlining the work in connection with the school children it was felt that it was in this division that the most immediate results could be obtained. The medical examination, figures of which are found in the annual report of the Board of Health, gives the organization a definite and fairly reliable starting point. This annual report is supplied to each society and to any individual upon request. In this report are recorded the number of children attending each school in the province, the number examined and the number suffering from mal-nutrition, defective vision, defective hearing, defective nasal breathing, adenoids, enlarged tonsils, defective teeth, enlarged glands and goitres.

The need for medical and dental attention for these defects is very apparent. Health Work such as carrying on the Health Crusade, Junior Health Officer's Report and Little Mother Leagues, can all be done by the parents and teachers co-operating and this will guarantee that the children shall leave school with health habits established, this lays a splendid foundation for the future but it does not remove the defects reported. The problem confronting the members of the Conference was what the organizations could do to remedy these defects. The only practical solution was to provide a school nursing service or a Public Health Nursing Service which includes school nursing as the branch receiving first attention. It was realized by the members of the Conference that it must be the nurse in her professional capacity who could secure treatment for these defects. She, it is, who follows up the doctor's report, explains to the parents and co-operating with them and with the organizations, arrange for operative clinics. The Health Work can make just so much progress, and then the services of the Public Health Nurse becomes imperative.

For the purpose of meeting this need, the Public Schools Act was amended at the session of the Legislature in 1920 to allow the

following assistance being granted to School Districts which desire to employ nurses.

Cities of the first class receive $460 grant per nurse.
Cities of the second class receive 520 grant per nurse.
Cities of the third class receive 565 grant per nurse.
Municipal and rural school districts receive $580 grant per nurse.

AN EXAMPLE OF MONTHLY SALARY.

If the School Boards of a municipality or rural school district decide the nurse's salary at $125.00 per month for the twelve months of the year, the Government will grant $48.33. This leaves a balance of $76.67 per month for the School Boards to make up. Whilst no one rural school district could attempt to raise that amount, in a group of from five to seven boards each could at the annual school meeting vote its proportional share of this sum, which would be $10.00 (slightly more or less) per month per School Board. This would not work a hardship on any individual board, and yet it provides the salary required.

There still remains the question of transportation for the nurse, because in the rural districts most of the time would be spent walking from one case to another. Here is where the organizations such as the Institutes could render signal service by raising funds to guarantee this necessary means of conveyance. Organizations are urged to promote and organize public opinion in order that the School Boards may feel they are carrying out the wishes of the people in voting this salary.

After the residents of any district have experienced the advantages of this nursing service for one school term, nothing would induce them to do without it. To assist the organizations in promoting and developing public opinion, the Provincial Board of Health has generously offered to provide half the salary for a period not exceeding six months, at the end of which time it was expected that the School Boards would provide the salary on the terms specified in the amendment.

An account of this Conference with recommendations and material mentioned was submitted to all the Institutes. The result has been very encouraging. An increased interest in, and a growing realization of the responsibility to "the child in their midst" is rapidly being developed. Following this Conference as a logical outgrowth, has been the organizing of District Child Hygiene

Councils in the four Women's Institute Districts, namely, Vancouver Island, Lower Mainland, Okanagan and Kootenay, each with its district executives.

At Vancouver Island District Conference in December, 1921, the question was asked, "After the nurse is established, what is there for our organization to do? Are we not interfering with work to attempt anything further?" It was pointed out that the Public Health Nurse could do little or nothing beyond bedside care without an enlightened community to support and carry out her instructions. Every epidemic that sweeps through our schools is a direct result of ignorance of the necessity of observing quarantine laws. It is recognized to-day that it is within the power of civilized man to give contagious diseases coup de grâce for ever. But this will only be done by education and it is only the voluntary organizations that can at present do this education. Sanitary legislation is useless without sanitary education. The discussion culminated in a formal request in the form of a resolution asking for a set of programmes suitable for twelve monthly meetings to be supplied by the Provincial Board of Health to any organizations interested.

Accordingly the following set of twelve programmes was drawn up and recommended for consideration. Material, including Roll Call for three of these have been supplied.

CHILD HYGIENE COUNCIL.

Programme 1.

Roll Call. Figures from Vital Statistics.
Address. Public Health in B. C.
Report of Provincial Board of Health.
Appointment of Committee to report on number of babies in community.
Number of Canadian Mother's Books distributed and Diet Folders 1 and 2.
Maternal death rate and infant death rate found on pages References.

CHILD HYGIENE COUNCIL.

Programme 2.

Prenatal and Maternity Care.

Roll Call. Quotations on "Mothers."
Report of Committee appointed.

Address. "Care of Expectant Mother."
Discussion.
Appointment of Committee to report on number of children of pre-school age in community. Communicable diseases occuring in district during year among children.

CHILD HYGIENE COUNCIL.

Programme 3.

Pre-School Child.

Roll Call.
Report of Committee.
Talk on Health of Pre-school Child including diet.
Discussion.
Appointment of Committee to report on defects among school children in district found in report of Board of Health.
References.

CHILD HYGIENE COUNCIL.

Programme 4.

Defects of School Children.

Roll Call.
Report of Committee.
Reading of report on medical examination of school children, Other reading.
Series of papers—10 minutes on each defect.
Discussion. What action should be taken by members of the organization to institute remedial measures.
Appointment of Committee to report on number of communicable diseases in district during last five years. Number of deaths. Distribution of posters of various diseases.

CHILD HYGIENE COUNCIL.

Programme 5.

Quarantinable Diseases.

Roll Call.
Report of Committee.
Discussion. Length of quarantine for .....
Law regarding this (10 minute papers)
Talk on results.

Appointment of Committee to ascertain number of school children with malnutrition.
Number drinking milk.

CHILD HYGIENE COUNCIL.

Programme 6.

Malnutrition.

Roll Call.
Meaning of term malnutrition.
Prevalence and effect on growing child.
(Series of 10 minute papers.)
Appointment of Committee to discover number of children in district suffering from defective teeth.

CHILD HYGIENE COUNCIL.

Programme 7.

Roll Call.
Report of Committee.
Address. "Dental Caries."
Discussion on possibility of dental clinic for district.
Appointment of Committee to report on T. B. in Province.
Number of deaths, sanatoria and needs.

CHILD HYGIENE COUNCIL.

Programme 8.

Roll Call.
Report of Committee.
Address on Tuberculosis.

Posters.

CHILD HYGIENE COUNCIL.

Programme 9.

Roll Call.
Cancer.

Posters.

CHILD HYGIENE COUNCIL.

Programme 10.

Roll Call.
Address. Pneumonia.

CHILD HYGIENE COUNCIL.

Programme 11.

Roll Call.
Address. Public Health Nursing Service.
Qualifications of Nurse. Duties.
Mode of support.

CHILD HYGIENE COUNCIL.

Programme 12.

Economy of Health Tax.

Mental Hygiene in Toronto Public Schools

By Eric Kent Clarke, M.B.

Read before joint meeting of Sections of Medicine and Preventive Medicine and Hygiene, Academy of Medicine.

(Combined meeting Preventive and General Medicine Section, Academy of Medicine, January 30, 1923).

IT is an opportune time to present this paper at the combined meeting of these two sections of the Academy. Although the survey has been going on for some period, it has been felt that until the work was well founded it was wise to proceed cautiously, gathering facts to prove its necessity. The time has arrived when our statements can be backed up with figures, and help is required from every available source to bring about the needed and long overdue reforms.

To state that in the Toronto Public Schools a little over two per cent. of the children are subnormal would merely be going over old ground, and would mean little. This number does not sound startling or even overwhelming. It means, however, that there are in the Public schools alone, not including the Separate schools, between 2,200 and 2,300 pupils who are incapable of receiving an education in the ordinary way. This throws a different light on the work. Twenty-two hundred appears a much more formidable figure than two and a half per cent.

These are children who will never have a mental age of over ten and one-half years, and who in the ordinary course of events never get beyond the second book. It cannot be hoped to educate them along customary lines, as purely academic work is out of their reach. The majority are educable to a certain degree, and many can be made self-supporting.

In the past, the thought that once a child was labelled a mental defective meant institutional care, without future for the individual. This is a wrong attitude and has done harm, impeding the progress of the work more than anything else. Perhaps the fault lies in that too often the term mental defective has been interpreted to cover only idiots and imbeciles. The high grade type, who in many ways show an equal inadequacy for social adjustment to the lower forms, do not fit in with the mental picture held by lay

observers. As they possess a certain amount of superficial glibness, can read and write, do simple arithmetic, etc., they slip by unnoticed.

The fact that they may pass in a crowd and escape detection does not help the individual to make his adjustments in every day life. To prevent this failure is our mission. The accusation has been made too frequently that all mental defectives should be locked up during their whole lifetime. This idea is wrong. The more that can be successfully kept in the community the better, and with proper supervision and education many can be made successful wage-earning citizens who are an asset to the State rather than a liability.

So many problems of preventive medicine have roots in mental abnormality that much can be done to improve the general public health by the proper and adequate solution of the mental defective problem.

While the percentage of subnormality in the city schools is 2½%, different sections of the city show great variation. For instance, many areas show an individual ratio of less than 1% mental defect per total school population. Fortunately for the community this low percentage predominates. On the other hand, other sections show as high as seven, eight, ten and even elevent per cent. of the children attending school are mental defectives. It is in these districts our troubles lie. The history of each is almost identical. tions show as high as seven, eight, ten and even eleven per cent. respectively, are examples. Each had its origin as a shack town, standing just outside the city limits. Land was cheap and building restrictions non-existent. A shack could be built of boards covered with tar paper for very little. Each of these three cases were founded at approximately the same time, when our barriers at ports of entry did not exist for English-speaking settlers. The ocean steamship companies waged a rate war, and a steerage passage could be obtained for about twenty-five dollars. Everything was done to stimulate the flow of immigration to Canada.

Along with the others came great numbers of misfits from the British Isles, filled with hope that the new land might hold success for them. The low passage rates made it possible for them to come, and all were welcomed without question. But the change of climate had not the desired effect, and the shortcomings that proved to be the source of failure in the Old World again came to the fore in many cases. While some of the residents of the shack town moved to a more desirable neighbourhood, the weaklings had to stay for

the simple reason that finances would not permit anything better. As time passed, these colonies, which originally were outside the city, have been enveloped by the growth of the city leaving them as blots on the landscape. Being essentially of a cheap nature the vacancies left by the migration of the prosperous have been filled by others who had to seek surroundings to fit a slim pocket book. In the course of time most of the best elements were gradually eliminated, leaving the dregs.

The occupations of the fathers of pupils attending these schools is interesting. The majority are unskilled labourers, teamsters, elevator men, etc., showing that they did not possess sufficient intelligence to advance further. It is a fact that in no section of the city did we find so many families who had been deserted by the fathers. At first it appeared this might be due to economic conditions, that once the bread winner absconded the family must seek the cheapest place to exist. But usually this was not the case. The majority of families who had been deserted in this district were old residents, and the deserter, it appeared, became down-hearted at the hopeless prospects he faced with an ever-increasing family, discouraging home conditions, and a persistently small wage. Consequently he took French leave, ordinarily with some other man's wife, to repeat the experience in new fields.

During one of the periods when unemployment was causing anxiety, the city opened a relief bureau. It was found there that although all the districts of the city required a certain amount of help the three sections with the highest percentage of mental defect in school children required by far the most urgent help. Here, again, is an indisputable proof of the hereditary nature of mental defect, and of the inadequacy of the class as a whole. When there is a pinch the subnormal is the first to suffer. When an employer feels the necessity to reduce his staff it is the one who is least use that goes first. This means the unskilled man. His wages are low and are not managed to the best advantage, and they are always but a short way ahead of starvation. Once the income ceases it is only a matter of a few days till they become dependent on charitable societies. If in days gone by they had been taught some useful trade at which they might prove more or less proficient they would probably have had a better chance of earning a higher wage, and of retaining a job longer, if placed in a suitable position. A mental defective who finds his proper niche in routine work he is capable of doing is, as a rule, a faithful worker, happy and contented with his lot. He rarely changes his position unless forced to do so, and his

lack of ambition makes him content to go on doing the same thing day after day. The war taught a useful lesson on this point, and showed that a lot of mental defectives who had previously carried on fairly well in the community where they were accustomed to a routine, broke down, developing shell shock and other ailments, under the strain of constantly changing conditions of the army.

Some may say that while we have so many defectives and are always likely to have them, why worry! As a matter of fact, a certain number are essential to the community to do the rough work that the more intelligent refuse to undertake. But to overcome the conditions that exist and make the best of poor material to be dealt with, advances are being made and still greater ones remain untouched.

The inauguration of a system of auxiliary classes has in two ways done much to relieve the situation in the public schools. It has removed the slowly progressing pupils from ordinary grades where they proved a drag on those of average intelligence, and given the latter a better opportunity to advance more quickly. The teacher has more time to devote to those capable of absorbing information. One feebleminded child requires three times the amount of the teacher's day as an average pupil. Secondly, the slow pupil for the first time has a chance of getting an education suited to his needs. The classes are limited to sixteen pupils instead of fifty. Here he is no longer the tailender in an unequal fight. The work is such that he is capable of understanding. The teacher has an opportunity to bestow individual instruction on things he does not understand. The most important thing that he is taught is to use his hands, to do work that appeals to him. There is now some incentive to attend school.

It has been found that with the inauguration of auxiliary industrial classes truancy is greatly reduced. One truant defective is a source of worry—he is usually a chronic case, and this is the first link in the chain of the development of a juvenile delinquent. The manual work is emphasized, for it is the line the mental defective is best adapted for. The classes develop this ability, which would otherwise be neglected in school, for regular manual training is not begun until the pupil reaches the fourth book. The mental defective never reaches this grade. In auxiliary classes the handwork is of necessity of a limited nature on account of lack of space and equipment, so that only the more simple forms can be carried on. Up to the age of twelve the existing classes are satisfactory, but beyond this are useless. At present we have thirty-seven in operation.

This is only a beginning as an additional hundred are required. Lack of space in schools has hindered the opening of more, and it is in the schools that require the classes most, congestion is greatest, so that in some areas where there is urgent need for such assistance no classes exist. It is hoped that eventually this can be overcome.

With the beginning of last school year the Adolescent School Attendance Act came into force, and as a result we are more at sea than ever. The aim of the Act is admirable, but like so many other legislative measures some one had the germ of a great idea, had the law passed and enacted, but neglected to work out the details as to how it should work. The law requires every child to attend school till sixteen years of age, assumes that all children are of equal intelligence, and aims to give all at least a high school standing. The thought is good, but shows a lack of insight on the part of the originators, and under the present circumstances has earned the severe criticism it has received. It was a mistake to have the Act enforced prematurely, for there was no machinery to carry out its requirements. Pupils who had reached their academic limit and required training along technical lines found that it could not be managed for them, and it meant two extra years grubbing along on work that was of no interest to them and would be of no practical value in later life. In other words, it is not elastic enough to meet the needs of the whole school population.

Amongst the subnormals it played havoc. The auxiliary classes are forced to keep the pupils till sixteen, and it is impossible to interest these bigger children in basketry, weaving and other forms of simple handwork that can be carried on with the small equipment allowed. The only alternative is to return them to ordinary grades, where they lose all the good gained so slowly with the special teaching. Either plan makes the pupil feel ashamed to be at school.

To meet this there is an active movement afoot at present to establish a Trade School for the older subnormals. One central school for boys, another for girls, where eight or ten industries suited to this type of individual can be taught. With such a training supplementing the ground work of the junior auxiliary class, there is a better chance for the pupil on leaving school to become self-supporting, especially if the school maintained a placement bureau and placed those about to leave in suitable positions.

The foundation of such a school is essential, and the necessity is recognized by the school authorities. There are so many things re-

quired by the schools of Toronto where the school population grows more rapidly than schools can be erected to accommodate them, that the danger lies on the possible shelving of the Trade School temporarily. To the Mental Hygiene work this would be almost a fatal blow and undo all the work that has taken years to accomplish. Help is needed from every source to urge the Trade School. Such schools are in operation in many other cities, so the argument is not based on theory alone, but on the practical results observed elsewhere.

An extensive system of follow-up work is required as it is of little use to educate the subnormal up to a certain point, and then turn him loose on his own resources to sink or swim as best he may. The success depends on his being in the proper environment, and until he learns to make his own adjustments to have some one to depend and look to for assistance.

An argument brought forward by the critics, and we always have plenty of them, is that the employer will object to the social worker coming into his factory interrupting the work during hours. This difficulty, I think, can be easily overcome. A recent survey of the subnormal in industry showed that the majority of employers of large staffs are aware of the large number of misfits on the organization, who are poor producers, wasteful, unhappy and generally unsatisfactory, but are essential for various types of unskilled work. The employer is willing to stand for this cheap type of labour, as they can see no way of doing without it, although aware of its inefficiency. The attitude is one of tolerance, and in many quarters there was hope that something would be done to improve things. The employers are willing to co-operate if they can be shown some constructive plan that will increase production. A great deal depends on the personality of the social service worker. She must not be of the "sob sister" variety, who intrudes in an offensive manner into other people's affairs, but a capable, broad minded person, with vision and adaptability, who can follow up each case, find what the surroundings are and how the individual is getting along. The employer, or some responsible representative should be interviewed, and the case and circumstances explained if necessary. It is argued that it is unfair to prejudice the employer against the employee, but the inadequacies are likely to be discovered sooner or later by the employer, and it is better to forewarn him and place him in a position where the handicapped subnormal has the best chance of success. The employer who does not want to

co-operate, the probability is that his factory is not the type likely to offer the best atmosphere for the subnormal adolescent.

For the mental defective, who has strong anti-social tendencies the Trade School is of little value, for they are not successful in the community. The character is weak and the ability of conforming with the laws lacking. For the protection of the individual and the protection of others, permanent segregation is necessary. No suitable institution of this type exists in Ontario at present. The Orillia institution is not large enough, and makes little attempt to educate the patients. A farm colony is required, organized along the same lines as the trade school where industries can be taught in addition to the outdoor work. Here under constant supervision the anti-social tendencies in some cases can be replaced by habits of industry and the necessity of abiding by the law. Some of the colony cases can be paroled out under supervision, others will require permanent care. Industry for everyone should be the slogan of such a Home.

The problem is essentially a medical one, and much can be done to prevent the conditions that exist at present amongst the feeble-minded. This class will always exist in the community—a certain number are essential, but must be controlled, otherwise they will increase to such an extent that there is danger of lowering the whole standard of the race. Our immigration must be closely watched, and in the future Canada must not be made the dumping ground for undesirable types from other countries. Mental Hygiene has a great role to play in the future, and can do much to overcome the conditions that exist at present.

News Notes From Saskatchewan

The Division of Sanitation of the Saskatchewan Bureau of Public Health prides itself on being a progressive division of a progressive provincial health authority.

During last year the entire Province was covered by the inspectors of the Division who were each allotted a district and as a result of this systematic sanitary survey of the Province information is being prepared in bulletin form on water and milk supplies, slaughter houses and other subjects of interest to the rural population. It is hoped that the number of deaths from communicable disease will be reduced still further by education in measures for an improved sanitary environment.

The Commissioner of Public Health has recently arranged that the bacteriological examinations of all water and milk samples be handed over to the Division of Sanitation. The old practice of examining each and every sample of water received has as a result been discontinued and in future anyone desiring an opinion on the safety of a water supply will be required to give the fullest information on the source of supply with a sketch of the immediate surroundings. Samples will only be examined which are taken in accordance with directions given and mailed by special delivery in sterilized glass stoppered bottles supplied by the Division.

The supervision of the harvesting and storing of ice is an activity which calls for much attention at this time of year.

All surface waters in Saskatchewan must be regarded as dangerous in their natural unfrozen and untreated state.

The majority of these waters are however, safe for use as ice cutting fields, due to the purification process affected by freezing, provided that certain precautions are taken in harvesting the ice. All persons cutting ice must have a permit and this is only given after full investigation has been made into the source and conditions of cutting.

Following a thorough investigation of all city pasteurizing plants, the term "pasteurization" as applied to milk supplies in Saskatchewan has come to mean a scientific process whereby the

public can be assured that their milk is as safe as it is humanly possible to make it.

In 1920 pasteurization at one city plant removed only 4 per cent. of the bacteria in the raw milk and "clean" empty bottles contained 411,000 bacteria per c.c.

To-day all pasteurizing plants in Saskatchewan are removing over 98 per cent. of the bacteria and clean empty milk bottles are sterile.

General News Notes

At a meeting of the Executive of the Canadian National Association of Trained Nurses, held in Toronto, January 19th, 1923, Miss Jean S. Wilson was appointed Executive Secretary for the Association.

On February 1st, Miss Wilson with the assistance of the President, opened up the National Office at 609 Boyd Building, Winnipeg.

Besides acting as Secretary-Treasurer for the Association, Miss Wilson will conduct a bureau of information regarding all matters relating to the nursing profession in Canada.

Miss Wilson is a graduate of the Lady Stanley Institute in Ottawa. For several years she was Superintendent of the General Hospital, Moose Jaw. Last year she was awarded the Canadian National Association of Trained Nurses Scholarship for the course in administration in the School of Nursing, McGill University. Before leaving Saskatchewan, Miss Wilson was Secretary and Registrar of the Saskatchewan Registered Nurses' Association, and for the past two years has been Treasurer of the Canadian National Association of Trained Nurses.

Monday, Tuesday and Wednesday, May 21st, 22nd and 23rd are the dates set for this year's annual meeting of the Ontario Health Officers' Association.

The session will be held in the Physics Building, University of Toronto, and an excellent programme is being prepared. One of the speakers from out of town will be Dr. H. F. Vaughan, D.P.H., Medical Officer of Health, Detroit, Mich., and it is hoped that Dr. Banting of Toronto University will be present to give an address on "Insulin in the treatment of Diabetes."

An important feature of the convention will be a symposium on Cancer, with several able men taking part in the discussion. Moving pictures on Health subjects will be shown daily. There are many important and interesting papers to be read, fuller details of which will be announced in the April number of the PUBLIC HEALTH JOURNAL.

Dr. D. V. Currey, M.O.H., St. Catharines, Ontario, is President of the Association; Dr. T. A. Lomer, M.O.H., Ottawa, 1st Vice-President; Dr. T. J. Park, M.O.H., Amherstburg, 2nd Vice-President, and Dr. J. J. Middleton, of Spadina House, Toronto, Secretary.

The Provincial Board of Health of Ontario

COMMUNICABLE DISEASES REPORTED FOR THE PROVINCE FOR THE MONTH OF FEBRUARY, 1923.

COMPARATIVE TABLE.

	Feb. 1923		Feb. 1922	
	Cases.	Deaths.	Cases.	Deaths.
Smallpox	23	0	185	0
Scarlet Fever	309	13	610	17
Diphtheria	156	21	403	38
Measles	703	7	541	1
Whooping Cough	402	30	158	5
Typhoid	65	4	31	5
Tuberculosis	173	137	171	117
Infantile Paralysis	2	2	.....	.....
Cerebro-Spinal Meningitis	11	9	6	6
Influenza	.....	335	.....	.....
Influenzal Pneumonia	.....	83	.....	41
Pneumonia	.....	756	.....	289
Syphilis	100	.....	181	.....
Gonorrhoea	84	.....	138	.....
Chancroid	1	.....	3	.....

Current Literature Dealing With Venereal Diseases

These abstracts are available through the courtesy of the American Social Hygiene Association.

THE WASSERMANN TEST. WASSERMANN TESTS IN A BOSTON MATERNITY HOSPITAL. By David L. Belding, M.D., and Charlotte B. Adams. *The Boston Medical and Surgical Journal*, December 7th, 1922.

Wassermann surveys upon hospital or dispensary patients who suffer from various pathological conditions, including syphilis, do not represent the normal incidence of syphilis or the true percentage of positives among the so-called healthy population. It is a matter of common knowledge that the Wassermann test, based on a non-specific fixation, does not detect all cases of syphilis. Negative tests are frequently obtained in syphilitics, particularly in old or treated cases, and infrequently positive reactions are obtained in other diseases. The Wassermann test, the most reliable method at our command for determining the existence of syphilis, does not represent the actual extent of the disease in a community. In the author's experience the close results with the same antigen, cholesterolized beef heart, suggests that the actual technique of performing the test is perhaps less important than the type of antigen and the method of reporting.

In 5,198 routine cases in a Boston Maternity Hospital, the Wassermann test showed some degree of positivity in 9.2 per cent., was definitely positive in 7.8 and strongly positive in 4.6.

Only 9.8 per cent. of the positive cases gave definite clinical evidence of syphilis, although an additional 19.9 showed suspicious findings.

Positive Wassermann tests, with cholesterolized antigens, in pregnant women are not comparable to similar tests in non-pregnant, and therefore do not either represent the actual incidence of syphilis in a community or the per cent of positive tests in healthy non-pregnant women.

Statistical studies from various cities cannot be accurately compared owing to differences in technique and material. For reference

all Wassermann surveys should be accompanied by a statement of the method of performing the test and a description of the status of the patient.

Owing to longer exposure, the per cent. of positives increases with age and length of married life.

The high incidence of syphilis in the negro, twice that in the white race, necessitates the exclusion of this race in certain statistical comparisons. The prevalence of syphilis varies with different nationalities.

The per cent. of positives increases inversely as the wealth of the patient, and also differs according to occupation.

In Boston the urban rate is higher than the suburban and the highest class residential districts show the lowest per cent. of positives, which, in this instance, explains the lower suburban rate.

AN ANALYSIS OF 10,628 NEW JERSEY REPORTS OF GONORRHOEA AND SYPHILIS. By A. J. Casselman, M.D. *U.S. Public Health Reports*, Vol. 37, No. 43, October 27, 1922.

More than one per cent. of all the unmarried men between the ages of 20 and 25 are reported each year as infected with gonorrhoea or syphilis. Venereal diseases are reported more frequently among unmarried than among married men; but in women the proportion is reversed, married women are reported as infected more frequently than single women. The ratio of venereal infections between the single and married males as about two to one, and this ratio is reversed among the females. This analysis indicates that there is needed some procedure which will tend to prevent the marriage of persons suffering from a venereal disease in an infectious stage.

It may also be concluded, according to the author, that if venereal disease control is to be made effective, physicians must be induced to discover, whenever possible, and include in the data reported to the state department of health, the specific source of the particular infection. Without disclosing the name of the patient who is reported, the state department can turn over to the local board of health having jurisdiction the name of the person given as the source of infection. This person may then be induced by the local health officer to seek physical examination and treatment. This should prove an effective means of bringing under treatment especially those women who do not now seek treatment for gonorrheal infections.

OBSERVATIONS ON THE KAHN PRECIPITATION REACTION. By Janet A. Holmes, *Proceedings of the Washington University Medical Society*, October 9, 1922.

The precipitation test for syphilis proposed by Dr. Kahn, of the Michigan Department of Health, is a simple reaction obtained by a mixture in given proportions of patient's serum and an antigen. Should this test prove equal in sensitiveness to the Wassermann, its superiority to the latter reaction becomes obvious. The following is a report on 131 cases seen in the Washington University School of Medicine, according to the technique outlined by Kahn.

Two rows of tubes were set up in a rack, the first row containing .3 c.c of inactivated patient's serum and .05 c.c cholesterin antigen. The second row containing .3 c.c. patient's serum and .05 alcoholic antigen. Controls were used. The rack was shaken for three minutes and incubated overnight at 37 degrees. In the morning positive sera showed marked clumping; negative sera remained clear. The scale of reading can be made parallel to the familiar four, three, two and one plus of the Wassermann. The following table gives the comparative results of 131 cases with the regular Wassermann and the same 131 cases with the Kahn test:

Wassermann	positive	
Kahn	positive	30
Wassermann	negative	
Kahn	negative	94
Wassermann	negative	
Kahn	positive	7
Wassermann	positive	
Kahn	negative	0

It will be noticed there is a disparity in seven cases. In these cases the clinical evidence supports the Kahn test as against the Wassermann.

The number of tests run is too small as a basis for conclusions, but results obtained to date are sufficiently significant to warrant further investigation.

There have been various tests proposed as a modification of, or an improvement upon, the original Wassermann reaction, but very few have justified continued use. The Kahn precipitation reaction is a simple test which bids fair to supplant the Wassermann instance, and in the cases where it differs the clinical history has been in favor of the former test. If the Kahn reaction is proven

to be what its originator claims for it, it would mean that the general practitioner could do this simple test in his office with little equipment and trouble, and little necessity for technical knowledge.

TWO HUNDRED SYPHILITIC PATIENTS WHOSE CHIEF COMPLAINT WAS "STOMACH TROUBLE: AN INTERPRETATIVE ANALYSIS OF THE DIAGNOSIS OF SYPHILIS IN CONSULTANT MEDICAL PRACTICE. By John H. Stokes, M.D., and Philip W. Brown, M.D. *American Journal of the Medical Sciences*, Vol. CLXIV, No. 6, December, 1922.

The summary of the 200 syphilitic patients who complained of stomach trouble showed that 70 per cent had neurosyphilis, 20 patients (10 per cent.) had organic lesions (syphilitic or non-syphilitic) of the gastro-intestinal tract, 9 (5 per cent) had lesions of the heart, and only 4 per cent. had true syphilis of the stomach. Sixty per cent. of the men and 70 per cent. of the women could not give histories of secondaries. In only 36 per cent. of the whole series of patients was syphilis recognized before they came to the clinic. The medical diagnosis before their examination in the clinic were apparently largely based on history (90 per cent.) and blood Wassermann reaction (65 per cent.). After examination in the clinic the diagnoses were based on history (60 per cent.), spinal fluid examination (59 per cent.), and glood Wassermann reaction (44 per cent.). Only 10 per cent. of the patients had had spinal fluid examinations before coming to the clinic, yet 59 per cent. were positive. *The examination of the spinal fluid deserves greater popularity.* Only 44 per per cent. of the patients gave a positive Wassermann reaction when they entered the clinic and 56 per cent. gave negative reactions largely as a result of treatment elsewhere. Negative blood Wassermann and negative spinal fluid do not exclude neurosyphilis as a cause of gastric complaints. Eighteen per cent. of our patients with stomach trouble had had needless operations, 80 per cent. before entering the clinic. In all but two of 35 patients there were clues to the underlying syphilis which were not followed up, or a negative blood Wassermann reaction that had been accepted as final, when other evidences of syphilis could have been found. A general rasing of the "index of suspicion" for syphilis among internists and surgeons would reduce operative mistakes on patients with abdominal symptoms. A blood Wassermann is often insufficient

to clarify the situation, but should at least be routine. Positive Wassermann reactions before operation should not be ignored. In the 109 cases which remained for treatment 70 per cent. improve, 43 per cent. were relieved of their complaint. Different methods of treatment will be required for underlying syphilis of the nervous system, the stomach, or the heart. The spinal fluid examination stands out as a procedure of the highest importance, outranking the serum Wassermann reaction in diagnostic syphililogy as applied to internal medicine. A plea is made for its wider use for diagnosis and for proper facilities for its performance and control.

GENERAL REVIEW OF THE NEW ARSENIC AND BISMUTH PREPARATIONS IN SYPHILIS. By M. Pomaret, M.D., Chief of the Laboratory of the Medical Faculty of the Saint Louis Hospital, Paris. *The Urologic and Cutaneous Review*. Vol. 26, No. 12, December, 1922.

The author gives a succinct summary of the recent French work upon arsenic and bismuth, and discusses the respective value of each of the preparations and of the best method of their use in the light of experimental and clinical facts. He, as well as Harrison, is of the opinion that 606 is more efficient when introduced intramuscularly. The following are the practical conclusions enumerated by the author:

1. The intensive treatment of syphilis remains as before the medication with trivalent arsenic having as its fundamental active constituent the base of 606 or amino-arseno-phenol. For the venous route 914 or novarsenobenzol remains the preparation which is particularly indicated. For the intramuscular route, the base of 606 or the preparation 132 fills a gap in therapeutics, making it possible by a simple technique to obtain the same therapeutic results as with the intravenous method with less noxious effect as shown by the absence of shock, the nitritoid crises, and the possibility of treating intensively by this method those who are intolerant of intravenous injections.

2. As regards bismuth therapy, we think that it demands further study and research to determine its posology and the respective indications of the soluble and of the insoluble salts. Particularly is it to be recommended in cases in which the specific lesions are resistant to mercury and arsenic; perhaps they are indicated in neurosyphilis, as recent work in this direction has indicated.

. . . . Bismuth medication shows itself to be complementary, more active certainly than mercury since it can be used in much higher doses than the latter, but still remaining behind arsenicals in intensive treatment, the serological activity of the latter being much more considerable.

3. The mixed therapy, arseno-bismuth, under the proper conditions of technique which unites the rapid treponemicidal action of the one with the remarkable power which the arsenicals have to reduce the Bordet-Wassermann reaction in a short space of time, it appears to the author to be the medication of the future, particularly indicated where "strong and quick" action is desired.

Notes on Current Literature

From the Health Information Service, Canadian Red Cross Society:

Health Education.

Prevailing fallacies in health education, by Dr. J. F. Williams, Columbia University. The author calls the attention of health workers to some of the most frequent errors in health education. "The Public Health Nurse," February, 1923, page 56.

Industrial Hygiene.

The Bulletin of the Department of Health of New York City for December, 1922, contains an address by the Deputy Commissioner of Health, on facts that should be known by the public regarding industrial hygiene.

Dental Hygiene.

In 1921 the British Medical Research Council appointed a committee to investigate the causes of dental disease. This committee has recenly issued a report on the structure of teeth in relation to dental disease. Other reports on different phases of the subject will be issued from time to time.

Pre-School Children.

A report on the physical status of pre-school children has recently been issued by the United States Children's Bureau. (Bureau publication No. 111.)

Prenatal Hygiene.

A lecture in prenatal hygiene and problems of maternity and child welfare, delivered by Dr. W. M. Feldman before the Royal Institute of Public Health. "The Journal of State Medicine," January, 1923, page 3.

School Lunches.

"A Penny Lunch" is the title of a useful booklet giving directions for starting and conducting school lunches for children.

Nutrition of School Children.

The report of the U.S.P.H.S. for January 12th, 1923, contains the result of an investigation of the height and weight of school children as an index of nutrition. The results of this investigation will be of interest to those who use height and weight tables in school health work.

Food for the Family.

A revision of the booklet issued by the New York Association for Improving the Condition of the Poor.

Public Health Nursing.

Nursing organization as developed in Toronto—by Dr. C. J. Hastings. "The Nation's Health," February 15th, 1923, page 61.

American Red Cross Publications.

The American Red Cross has recently issued the following new leaflets:—

(a) Manual of Organized Volunteer Service—A.R.C. 415.
(b) Red Cross Instruction in Home Hygiene and Care of the Sick for Girl Scouts —A.R.C. 719

Editorial

EVOLUTION.

IT was Epictetus or some other ancient sage who said that no great thing is achieved suddenly. The greatest thing for humans is health—health social, moral, spiritual—and that it should come all at once is unthinkable.

Civilization is a long time agrowing and the evolution of man from the beast requires time, suffering and strife. So the evolution of sane social relationships—of a sensible society composed of fairly treated individuals will take time, envolving as it does the elimination of those elements of strife between individuals which the mere struggle for a living has necessitated, the doing away of ancient prejudices and frictions which seem to have become woven into the warp and woof of our very being.

It could probably not be otherwise. Disorganization has proceeded to organization. The necessities of the individual at first paramount meant that the axiom that self-preservation is a first law of nature must be of prime importance, cherished by primitive man even as by the snarling beast.

But the forest primeval and the savage are a transitory phase. The forest disappears. Mankind moves from the cave to the plains, lives in cities, come to depend on his fellow humans first to help build walls to keep out savage enemies and later for co-operation of variegated types ranging from delivering his morning milk supply and providing amusement, to educating his children and building Atlantic liners and aeroplanes for him.

Ever increasing dependence on his fellow man means ever increasing demands for efficiency. Hence better workmen, better houses, better roads, better food,—life not for a few but for all, so that in the long run the socialists, the fanatic of another name with a panacea and the average well-meaning citizen all are satisfied.

Evolution as applied to biology is a phenomenon which we may observe but over which on the whole we can exert little or no influence. Evolution as applied to a community however, is a different matter. Its speed depends altogether on the action of man. Rapid spread of the idea that public service is the duty of the average rather than of the unusual citizen will mean the rapid approach of the ideal community. On the other hand the unloading of the burden of public service on the shoulders of a devoted few while the remainder work only for their own ends and play the rest of the time will definitely retard progress.